

Name: _____

p1103: Factoring with box when $a = \text{prime}$ (v14)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 31x + 36$.

*	x	
3x	$3x^2$	$27x$
4	$4x$	36

ANSWER: $(3x + 4)(x + 9)$

Question 2

Use the box to factor $7x^2 - 12x - 4$.

*	x	-2
7x	$7x^2$	$-14x$
2	$2x$	-4

ANSWER: $(7x + 2)(x - 2)$

Question 3

Use the box to factor $5x^2 - 29x + 20$.

*	x	-5
5x	$5x^2$	$-25x$
-4	$-4x$	20

ANSWER: $(5x - 4)(x - 5)$